

REMARKS

No claims have been amended, added or deleted. With entry of this Amendment, claims 1-16 will be pending. No new matter has been introduced. Applicant respectfully requests consideration and allowance of the application for the reasons outlined below.

Specification

The Examiner objected to the title as not being indicative of the invention to which the claims are directed. Applicant respectfully directs the Examiner's attention to the replacement title as set forth in the Amendments to the specification.

The Examiner further objected to the first sentence of the specification for failure to note that the parent application has been abandoned. The lineage of the parent application has been amended accordingly.

The Examiner requested that the abstract be directed to a method as set forth in the disclosure. Applicant respectfully directs the Examiner's attention to the replacement Abstract in the Amendments to the specification. Support for the content of the Abstract can be found in claim 1.

With these amendments, Applicant respectfully requests removal of the objections to the specification.

In addition to the above amendments, the first two sentences in the original Background of the Invention were placed in a new section titled "Field of the Invention."

Independent Claim 1 and Dependent Claims 2-16

Independent claim 1 recites "[a] process for depositing a film onto a bare or unplated zinc or zinc alloy substrate, the process comprising: directly depositing a film onto a portion of the substrate by physical vapor deposition, the film being a metal film, a ceramic film or a combination thereof, wherein the metal film includes chromium, nickel, titanium, zirconium or a combination thereof, and wherein the ceramic film includes a nitride, a carbide, an oxide or a nitroxide of chromium, nickel, titanium, zirconium, or a combination thereof."

The Examiner rejected claim 1-16 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,537,881 ("Corwin").

In order for the Examiner to establish a *prima facie* case of obviousness: 1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the teachings; 2) there must be a reasonable expectation of success; and 3) the references must teach or suggest all of the claimed limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, and not based on Applicant's disclosure. *In Vaeck*, 947 F. 2d 422, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicant respectfully submits that a *prima facie* case of obviousness has not been established because Corwin does not teach or suggest all elements of Claim 1.

Corwin discloses "a method for improving the bonding of vapor deposited metals without deleteriously affecting either the carrier specimen or the components associated therewith, by employing an initial low temperature step in the process." Col. 1, lines 68-72. The process includes "wet[ting] or alloy[ing] the surface of a specimen of one metal at a lower temperature with a metallic wetting agent which will also wet or alloy with a subsequently vapor or gas deposited coating of a different metal." Col. 2, lines 21-26. Suitable wetting agents include mercury, gallium, indium, tin, a eutectic alloy of gallium and indium, and gold. Col. 2, lines 62-68. "After wetting the surface of the specimen with a suitable wetting agent," a coating is vapor or gas plated "on the wetted surface using a vapor or gas plating process known in the art which is suitable for forming the desired coating." Col. 3, lines 9-14. Corwin specifically discloses "wet[ting] zinc specimens with copper by placing the zinc specimen in a solution of copper chloride containing free hydrochloric acid ... [and] vapor plat[ing] a chromium coating on the wetted surface by the pyrolysis of chromium carbonyl vapor." Col. 3, lines 15-22.

Corwin does not teach or suggest "[a] process for depositing a film onto a bare or unplated zinc or zinc alloy substrate, the process comprising: directly depositing a film onto a portion of the substrate by physical vapor deposition." Corwin's invention is specifically directed to improving the bonding of vapor deposited metals by first wetting the surface of the substrate with a suitable wetting agent and then vapor or gas plating a coating on the wetted surface. Col. 1, lines 68-72 and Col. 2, lines 21-26 and Col. 3, lines 10-14. Corwin does not teach or suggest vapor depositing films onto a bare or unplated substrate, as recited in Claim 1. In fact, one of Corwin's motivations for his invention was the fact the "[s]ome vapor plated metals do not satisfactorily bond to the substrates they coat." Col. 1, lines 41-42. By applying a

wetting agent between the substrate and vapor deposited film, Corwin hoped to overcome this problem associated with vapor deposition on bare substrates.


In view of the above, Corwin does not teach or suggest "[a] process for depositing a film onto a bare or unplated zinc or zinc alloy substrate, the process comprising: directly depositing a film onto a portion of the substrate by physical vapor deposition." Therefore, the Examiner has not established a *prima facie* case of obviousness. Applicant respectfully requests consideration and allowance of independent claim 1.

Claims 2-16 ultimately depend from allowable independent claim 1, and therefore, are allowable. Claims 2-16 may recite additional patentable subject matter for reasons not explicitly disclosed herein. Consideration and allowance of claims 2-16 are respectfully requested.

CONCLUSION

In view of the foregoing, consideration and allowance of claims 1-16 are respectfully requested. The Examiner is strongly encouraged to contact the undersigned by telephone at the Examiner's convenience should any issues remain.

Respectfully submitted,



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